OCTAGONAL INTERCONNECTION NETWORK FOR LINKING PROCESSING NODES ON AN SOC DEVICE AND METHOD OF OPERATING SAME

ABSTRACT OF THE DISCLOSURE

An octagonal interconnection network for routing data packets. The interconnection network comprises: 1) eight switching circuits for transferring data packets with each other; 2) eight sequential data links bidirectionally coupling the eight switching circuits in sequence to thereby form an octagonal ring configuration; and 3) four crossing data links, wherein a first crossing data link bidirectionally couples a first switching circuit to a fifth switching circuit, a second crossing data link bidirectionally couples a second switching circuit to a sixth switching circuit, a third crossing data link bidirectionally couples a third switching circuit to a seventh switching circuit, and a fourth crossing data link bidirectionally couples a fourth switching circuit to an eighth switching circuit.